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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention has the fruity flavor of the fruit-juice origin, and relates to the turbidity alcoholic beverage which obtains the turbidity alcoholic beverage with which turbidity does not fall even if moreover saved for a long period of time, without using a composite **** agent.

[0002]

[Description of the Prior Art] Conventionally, transparent fruit juice is added to an alcoholic beverage, a **** agent is added to this, and the method of obtaining a turbidity alcoholic beverage is learned.

[0003]

[Problem(s) to be Solved by the Invention] However, this approach has the scarce fault in the fruity flavor of the fruit-juice origin. Moreover, it has the fault which has a different taste nasty smell by addition of the **** agent which is not the raw material origin.

[0004]

[Means for Solving the Problem] Then, this invention persons completed this invention at last, as a result of repeating research variously, in order to obtain a turbidity alcoholic beverage completely new type without such a fault. That is, this invention is a turbidity alcoholic beverage whose pectinase activity which comes to mix with turbidity fruit juice at an alcoholic beverage is less than [0.001U/ml], this invention is a turbidity alcoholic beverage which mixes with the alcoholic beverage whose pectinase activity is less than [0.001U/ml], and the turbidity fruit juice whose pectinase activity is less than [0.001U/ml], and is obtained, and this invention is a turbidity alcoholic beverage which mixes with turbidity fruit juice at an alcoholic beverage, and comes to carry out heating inaugural kindling at 85-95 degrees C for 30 to 90 seconds.

[0005] This invention is explained to a detail below. as the approach of obtaining the turbidity alcoholic beverage whose pectinase activity of this invention is less than [0.001U/ml] -- (b) -- the approach of mixing with the alcoholic beverage whose pectinase activity is less than [0.001U/ml], respectively, and turbidity fruit juice, and (b) -- it mixes with the alcoholic beverage and turbidity fruit juice which were prepared by the usual approach, respectively, and the two approaches of the approach of carrying out heating inaugural kindling for 30 to 90 seconds at 85-95 degrees C are mentioned. In addition, the alcoholic beverage as used in the field of this invention means the alcoholic beverage except fruit wine, for example, sake, white distilled liquor, whiskey, brandy, liqueur, spirits, Biel, etc. are mentioned.

[0006] As an alcoholic beverage which is used as a raw material in order to obtain the turbidity alcoholic beverage of the approach of the above (1) and whose pectinase activity is less than [0.001U/ml] The alcoholic beverage which carried out heating inaugural kindling of the alcoholic beverage prepared by the usual approach for 30 to 90 seconds at 85-95 degrees C, Or the alcoholic beverage which was made to penetrate 50,000 or less-cut off molecular weight ultrafiltration membrane, and obtained the alcoholic beverage prepared by the usual approach, Or distilled liquor, such as white distilled liquor, whiskey, brandy, liqueur, and spirits, is mentioned. Moreover, the turbidity fruit juice which carried out heating inaugural kindling of the 85 degrees C of the fruit juice from which the pectinase activity which is another raw material crushes fruits, and is acquired by the usual approach as turbidity fruit juice which is less than [0.001U/ml] to it being low for 30 to 90 seconds especially for 30 seconds at least at 85-95 degrees C immediately is mentioned.

[0007] Moreover, the conditions of heating inaugural kindling for obtaining the turbidity alcoholic beverage of the

above-mentioned (b) (at 85 degrees C, that it is low) and on condition that inaugural kindling which is important and is usually performed (it is 1 - 30 minutes at 60-70 degrees C), for 30 seconds at least. Although it is very small in a heating inaugural-kindling processing article, since pectinase activity remains, if it mixes with turbidity fruit juice at this, it cannot defecate gradually, and it cannot become transparency, and the turbidity like this invention cannot be held to long period stability.

[0008]

[Effect of the Invention] Since deactivation of the pectinase of the fruit-juice origin is substantially carried out even to 0, as for the turbidity alcoholic beverage of this invention, the high turbidity of the fruit-juice origin is held over a long period of time. Moreover, by doing especially 5-30 capacity % use of the turbidity fruit juice which used a grape, a peach, a plum, an apple, a pineapple, a banana, a pear, an apricot, a plum, citrus, the cranberry, the strawberry, etc. as the raw material more than 3 capacity %, have the fruity flavor which these raw materials have, and the color tone of a raw material is made to reflect in a product as it is, and the turbidity alcoholic beverage which was excellent in color is obtained.

[0009] An example is shown below and this invention is explained more concretely.

[Example 1] Sake was prepared according to the manufacturing method of usual sake. On the other hand, turbidity fruit juice was prepared with the conventional method again using the Koshu kind grape. Next, mixing of the turbidity fruit juice was carried out 10% (V/V) at the above-mentioned sake, turbidity sake was prepared, it heated on the heating inaugural-kindling conditions given [this] in Tables 1 and 2, and, subsequently held near the operation optimum temperature of a pectinase (45 degrees C) for 3 hours, and the turbidity sake of initiation given in Table 1 was prepared. And after that, standing preservation was carried out at 35 degrees C on the 10th (it is equivalent to the 30-day preservation in a room temperature), and the last (ten days after) turbidity (Table 2) of turbidity sake was measured, respectively. And it investigated how many the turbidity decreases by the pectinase in the turbidity sake which remains after heating inaugural kindling. The result is shown in Table 1 and 2.

[0010] After carrying out general heating inaugural kindling adopted in the manufacturing method of the sake currently performed conventionally on the other hand, in order to presume how many pectinase activity remain in each sake, It added so that it might become each concentration like a publication about the pectinase pharmaceutical preparation of activity known in Table 3 to the turbidity sake which was heated for 1 minute and to which deactivation of the pectinase activity was carried out completely at 90 degrees C, and it held for 3 hours at 45 degrees C which is the operation optimum temperature of a pectinase, and turbidity was measured. The result is shown in Table 3.

[0011] In addition, the turbidity of front Naka carried out centrifugal separation of the turbidity sake, and asked for the absorbance in 660nm of 10mm cel using the Hitachi photoelectric photometer about the supernatant liquor. Moreover, measurement of pectinase activity is SOMOGI. The approach according to the Nelson method (SomogyiNelson) is followed. when polygalacturonic acid sodium was used as a substrate and it was made to react at 35 degrees C, the amount of enzymes which generates D-galacturonic acid of one micromole in 1 minute was shown as one unit (U/ml) ("a agricultural chemistry experiment document (the 2nd volume)" --) Refer to the volume on Kyoto University agricultural department agricultural chemistry classroom, Sangyo Tosho Publishing Co., Ltd., October 20, Showa 42 issue, and the 616-618th page.

[0012]

[Table 1]

55°C			60°C			65°C			85°C			95°C		
分	初発濃度	分	初発濃度	分	初発濃度	分	初発濃度	分	初発濃度	分	初発濃度	分	初発濃度	分
5	0.005	×	1	0.011	×	1	0.053	○	0.1	0.061	○	0.1	0.062	○
10	0.008	×	3	0.012	×	3	0.052	○	0.5	0.060	○	0.5	0.063	○
20	0.025	×	5	0.035	△	5	0.054	○	1.0	0.063	○	1.0	0.062	○
30	0.043	△	10	0.045	△	10	0.055	○	1.5	0.063	○	1.5	0.063	○

(注1) × ; 透明、△ ; 残存透明、○ ; 半透明～混濁

[0013]

[Table 2]

55°C			60°C			65°C			85°C			95°C		
分	最終濃度	分	最終濃度	分	最終濃度	分	最終濃度	分	最終濃度	分	最終濃度	分	最終濃度	分
5	0.002	×	1	0.003	×	1	0.008	×	0.1	0.049	○	0.1	0.053	○
10	0.002	×	3	0.003	×	3	0.008	×	0.5	0.052	○	0.5	0.054	○
20	0.005	×	5	0.006	×	5	0.010	×	1.0	0.053	○	1.0	0.054	○
30	0.005	×	10	0.006	×	10	0.010	×	1.5	0.053	○	1.5	0.054	○

(注) × ; 透明、△ ; 残存透明、○ ; 半透明～混濁

[0014]

[Table 3]

項目 試料区分	酵素活性 (U/ml)	混濁清酒
		濁度
1	1.2	0.005
2	0.6	0.005
3	0.12	0.007
4	0.08	0.008
5	0.012	0.013
6	0.008	0.025
7	0.0012	0.045
8	0	0.063

[0015] The turbidity (0.008) of Table 3 which will approach the turbidity (0.008) of a heat-treatment partition at 55 degrees C of Table 1 for 10 minutes, and will approach most the turbidity (0.011) of a heat-treatment partition and such turbidity at 60 degrees C for 1 minute if Table 1 and Table 3 are contrasted shows that it is 0.08-0.012U/ml, when the pectinase activity of the turbidity sake corresponding to the turbidity is searched for. namely, the general heating inaugural-kindling conditions adopted in the manufacturing method of the sake currently performed conventionally from Table 1 and Table 3, for example, 55 degrees C, -- 10 minutes or 60 degrees C -- about 1 minute -- pectinase activity -- 0.08-0.012U/ml -- it turns out that it remains. Moreover, even if it carries out mixing of the turbidity fruit juice 10% (V/V) at sake and prepares turbidity sake from the result of Table 1, 2, and 3 This by the general heating inaugural-kindling conditions adopted in the manufacturing method of the sake currently performed conventionally, for example, 55 degrees C, about 1 minute at 10 minutes or 60 degrees C in processing pectinase activity -- 0.08-0.012U/ml -- since it remains, turbidity decreases by prolonged preservation that the turbidity of initiation is to some extent high, and it turns out that turbidity holdout is not expectable. Moreover, when the turbidity sake which mixes with turbidity fruit juice and is obtained by above-mentioned sake is heat-treated for 6 to 90 seconds at 85-95 degrees C, pectinase activity serves as a turbidity alcoholic beverage not more than 0.001U/ml, and even if it carries out standing preservation for a long period of time [after / bottling], it turns out that a turbidity condition can be held.

[0016]

[Example 2] As a raw material, 1. Koshu kind grape, 2. white peach pulp, and 3. plum pulp were heated by crushing, the fruit juice obtained by carrying out juice was immediately heated for 1 minute at 90 degrees C by the usual approach, deactivation of the enzyme in fruit juice was carried out completely, and turbidity fruit juice was prepared. Moreover, according to the manufacturing method of the usual white distilled liquor, white distilled liquor (with no pectinase activity) was prepared. Subsequently, it mixed with white distilled liquor and turbidity fruit juice without the above-mentioned pectinase activity at a rate of 9:1 by the capacity factor, and turbidity white distilled liquor was obtained. Subsequently, it added so that it might become the concentration like a Table 4 publication about the pectinase pharmaceutical preparation of activity known at this, and it held at 20 degrees C after that for 15 hours, and investigated how many turbidity decrease by the pectinase which exists in turbidity white distilled liquor. The result is shown in Table 4.

[0017]
[Table 4]

項目 区分	酵素活性 (U/ml)	ぶどう		白桃		プラム	
		濁度	結果	濁度	結果	濁度	結果
1比較例	1.2	0.003	×	0.010	×	0.004	×
2比較例	0.6	0.003	×	0.015	×	0.005	×
3比較例	0.3	0.008	×	0.021	×	0.008	×
4比較例	0.12	0.010	×	0.030	×	0.013	×
5比較例	0.06	0.027	×	0.045	×	0.018	×
6比較例	0.012	0.038	×	0.055	×	0.021	×
7比較例	0.006	0.041	×	0.060	×	0.025	×
8本発明	0.0012	0.050	△	0.068	△	0.045	△
9本発明	0.0006	0.060	○	0.070	○	0.062	○
10本発明	0.00012	0.060	○	0.071	○	0.063	○
11本発明	0.00006	0.062	○	0.072	○	0.065	○
12本発明	0	0.062	○	0.072	○	0.065	○

(注1) × ; 透明、△ ; 残留透明、○ ; 半透明～混濁

[0018] Although the turbidity white distilled liquor with more pectinase activity than 0.001U/ml cannot be defecated gradually, namely, turbidity cannot decrease and turbidity holdout cannot be expected from the result of Table 4, as for the turbidity white distilled liquor which is 0.001 or less, it turns out that turbidity holdout is expectable.

[Translation done.]